DOCUMENT RESUME

ED 219 099 JC 820 315

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TITLE Reduction of Student Attrition through Personalized Academic Advising within the Context of Defined Student Educational Goals: Final Project Report.
INSTITUTION Cuyahoga Community Coll., Cleveland, Ohio.
SPONS AGENCY Advanced Institutional Development Program Two-Year College Consortium.
PUB DATE [Apr 82]
NOTE 26p.; Funded by a grant under the Strengthening Developing Institutions Program.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Achievement; Academic Advising; *Academic Persistence; Community Colleges; Cost Effectiveness; *Productivity; School Holding Power; Student Attrition; *Student Personnel Services; Student Teacher Ratio; Two Year Colleges; *Two Year College Students

ABSTRACT

Between 1980 and 1982, Cuyahoga Community College (CCC) undertook a project designed to develop and implement cost-effective practices that would improve student success rates and student retention between quarters by 5%. Numerous activities were involved, including the development of a student advising system; the review and revision of course outlines; the establishment of a Student Assessment Center; the development of individualized instructional strategies, student credit-hour standards, and course offering plans; and the monitoring of project activities by a Student Retention Committee. The target population included students enrolled in 35 entry-level courses spanning the business, health, engineering, and general education curricula. Outcomes of the project included the following: (1) the number of credit hours of students enrolled in key courses per full-time equivalent (FTE) faculty increased by 13.7%; (2) the total number of student credit hours on campus per FTE faculty increased by 12.5%; (3) the number of students successful in key courses increased by 3.5%; (4) the number of credit hours for students enrolled in key courses per dollar spent decreased by 6%; and (5) the average student retention between quarters increased by 8.5%. It was concluded that, given firm organizational commitment, productivity (as measured by faculty/student ratio) could be improved along with student retention and success. Data tables are appended. (HB)

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COMMUNITY COLLEGE PRODUCTIVITY CENTER

Final Project Report

GENERAL INFORMATION

District Cuyahoga Community College

College (if multi-campus) Metropolitan Campus

Project Title Reduction of Student Attrition Through Personalized Academic Advising Within the Context of Defined Student Educational Goals

Project Coordinator Curtis F. Jefferson Title Provost

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PLEASE READ THE ABOVE CAREFULLY, AND IF THERE ARE ANY CHANGES, MARK CLEARLY SO WE MIGHT ALTER OUR RECORDS ACCORDINGLY.

DISTRICT INFORMATION

Multi-Campus X Single College _____

Enrollment: (FTE) District 12,457 (WTR 82) Your College 4,806 (WTR 82)

No. of Staff: (Admin., Staff & Faculty) in your College 741

Total Operational Budget (Do not include items relating to capital construction) 12.2 million

OTHER INFORMATION

Please list any other information about your institution that would be of interest and value to the reader.

Since 1975, the College has undertaken a series of activities under its institutional Development Program (IDP), a program initiated by the President of the College that have strengthened the efficiency and cost-effectiveness of its management, delivery of instruction and instructional support services, and the quality of its College's Advanced Institutional Development Program (AIDP) and Strengthening Developing Institution's Program (SDIP) grants, which began in July, 1978 and continue through June, 1982. The ADIP/SDIP components of IDP have focused their activities on specified outcomes related to increasing student retention and student success rates. Retention is defined here both in terms of between quarter continuation of a student in the College (i.e., a student enrolls in the next successive quarter) and within quarter completion of a course (i.e., completion with a grade of A-F or Inc.). These retention definitions are for the purposes of the study. The College continues to move toward investigating retention in terms of students achieving their defined educational goals. Success is defined as completion of a course with a grade of A-D.

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Under the AIDP/SDIP grants the College has made dramatic enhancements in the quality of its curriculum, delivery of its student services, and effectiveness of its management. Led by the Metropolitan campus, one of the three campuses of the College, and strongly supported by the District administrative offices, some 100 task forces and committees and more than 400 participants from the three campuses and District have

- updated course outlines for over 85 percent of the more than 1000 credit courses offered by the College;
- developed core curricula in the health careers, engineering, business, and general education programs;
- defined individualized, competency-based programs in developmental communications and mathematics;
- developed individualized instruction in such core courses as Anatomy and Physiology, Medical Terminology, and Electrical Engineering;
- improved operations and management in the academic and student services areas;
- initiated academic advising;
- initiated development of a student tracking system.

Although the academic advising effort was the target effort of the Productivity Project, it was only one of the activities in the College that were directed toward student retention and success during the project period, as is indicated above. Because the project was set within the context of these activities and, in turn, within the Institutional Development Program, the results of the study must be interpreted in light of these variables.

The base period for the Project was Spring Quarter, 1978 through Winter Quarter, 1980. The project period was from Spring Quarter, 1980 through Winter Quarter, 1982. Productivity is broadly defined to include indicators of student benefit as outcome measures, in addition to inputs of cost.

OBJECTIVES

1. By June, 1982, develop and implement cost-efficient practices that will improve student success rates by 5 percent in entry-level courses in business technologies, health technologies, engineering technologies, and general education.
2. By June, 1982, develop and implement cost-efficient practices that will improve student retention between quarters by 5 percent.

POPULATIONS

The participants were students enrolled in thirty-five entry-level courses(see Figure 1 for the list of courses). Some entry-level courses begin the freshman sequences in programs; others concentrate on developing the basic skills needed to meet entry-level requirements for programs and freshman sequences. The courses spanned the business, health, engineering, and general education curricula. The students who were enrolled came from a multiracial urban metropolitan draw area.

PROCEDURES AND ACTIVITIES

- The President of the College and Vice President for Educational Planning and Development established student retention as a priority commitment under CCC's Educational Plan of Advancement in 1980.
- An Academic Advising Task Force made up of faculty and administrators was established in 1980 on the Metropolitan campus. The basic charge to the committee was to develop a Student Advising system. The system that was approved by the campus Cabinet involved the assignment of each student to a faculty advisor and the assignment of faculty advisors to counselors, thus creating a counseling/

advising network. The system was implemented in 1981. In-service workshops were held Winter Quarter, 1981; a Student Advising Handbook is in process of development. It is expected that by the end of Spring Quarter, 1982, virtually all student advising processes and procedures will be in place. Investigation of the direct impact of advising activities on student retention and success is also underway.

- The AIDP/SDIP grant-funded activities noted below have been essential to improvements in student retention and student success in courses.
  - Under the course update project, task forces of faculty reviewed and updated outlines for each course in their subject areas. Updating included defining general student performance objectives for each course. Clear definitions of student performance objectives or expected student outcomes are vital components of any effort to address quality, improve curriculum and instruction, and enhance student success.
  - Recommendations have been made for improving the basic communications and math curricula.
  - A Student Assessment Center was established in 1978 to carry out pre-registration testing in English and Math for course placement purposes.
  - Individualized instructional strategies and/or support systems were developed and implemented in Office Administration, Anatomy and Physiology, Social Science, Basic Communications and Math, Medical Terminology, and Electrical Engineering.
  - The College entered into an agreement with Control Data Corporation to use PLATO systems on the Metropolitan campus. PLATO is viewed as a vital component of the learning support system.
- Student credit-hour standards were established by the Vice President of Educational Planning and Development, with significant input by the campus Provost.
- Subject areas and programs developed three-year course offering plans within the context of student credit-hour standards, program requirements, historical enrollment data, historical attrition data, and historical student success data.
- A Student Retention Committee was established in September, 1981 to monitor progress and provide direction in the following areas:
  - Implement a Student Assessment Program that addresses levels of basic skills development and clarifies educational goals.
  - Implement a comprehensive student orientation program.
  - Design and implement learning paths for students within the context of students' educational goals and levels of development in communications and mathematics.
  - Implement a competency-based basic skills curriculum that also includes development of study skills.
  - Complete implementation of the Student Advising Program within the context of the Student Advising Task Force Report
  - Design and implement an early warning system that monitors student progress at intermediate points within each quarter. Systems should also address the progress of veterans and financial aid recipients, within the context of defined Standards of Measurable Progress.
  - Develop and implement learning support programs for each program, department, and division; programs should include availability of full and part-time faculty outside of classroom, tutorial support (human and computer), etc.
  - Improve the personal future-building program that addresses career planning, academic planning, and personal problem resolution; expand the teaching force for general studies, using faculty from Social and Behavioral Sciences.
  - Provide student involvement with full and part-time faculty outside of the classroom through learning experiences, activities and events, recognition activities, etc.

- Identify prerequisite capabilities for each course in the curriculum listed with no prerequisite.
- Define specific student performance objectives for each course in the curriculum (academic excellence).
- Define and implement admission, selection, and retention criteria for each career program (academic excellence).
- Implement learning support systems using the computer.
- Implement core curricula in general education, business, health, and engineering technologies.
- Design and implement research project focusing on student withdrawals, no-shows, dropouts, stopouts, etc.
- Determine dropout rates and success rates for each program, department, and division; develop a system for monitoring the rates at the end of each quarter, beginning with Fall Quarter, 1980; determine local factors contributing to attrition/retention.
- Design and implement specific strategies relative to identifying areas of need and evaluate the results of the strategies.
- Maintain an ongoing research program that covers local factors related to retention, including documentation of intervention strategies and their results.

RESOURCES REQUIRED

The principal costs associated with the activities indicated above have been for faculty released time: academic advising coordination, $12,000; course update work, $50,000; individualized instruction development, $75,000. Supplies and copying are estimated at $5,000. Equipment purchased or leased was used in courses in addition to the key courses and cannot be allocated to the project alone. The Assessment Center was funded prior to the project and, although the correct placement of students in courses may have contributed to their success and retention, the cost of the assessment process cannot be allocated to the project alone. All other efforts were indirect workload assignments of faculty and/or administrative responsibilities. The collection of data is estimated to have taken $25,000 in staff and computer time.

MEASUREMENT SYSTEM

Base date: April 1, 1980
Terminal date, April 1, 1982
Percentage of productivity growth achieved:

- Productivity Indicator A: The number of student credit hours per full-time faculty increased from 370.44 to 421.26, an increase of 13.7 percent.
- Productivity Indicator B: The number of student credit hours per dollar spent on instruction decreased from .049 to .046, a change of minus .003 or 6 percent.
- Productivity Indicator C: The number of successful student credit hours per dollar spent on instruction remained relatively constant at .007 for both periods.
- Productivity Indicator D: The total number of student credit hours for the campus (i.e., for all courses offered) per full-time equivalent faculty increased from 271.68 to 305.61, an increase of 12.5 percent.
- Productivity Indicator E: The percent of student retention between quarters increased from an average of 67.7 for the base period to 76.2 percent for the project period, an increase of 8.5 percent.

Outputs

- total number of credit hours taken by students enrolled in key courses
- total number of successful students enrolled in key courses
- total credit hours of successful students
- total number of student credit hours on Metropolitan campus
- total number of students retained between quarters (unduplicated headcount)

Inputs

- total number of full-time equivalent faculty teaching key courses
- total instructional costs of full-time equivalent faculty and tutors involved in key courses
- total full-time equivalent faculty for Metropolitan campus
- total number of students enrolled (unduplicated headcount)

Productivity Indicators

A: $\frac{\text{total number student credit hours in key courses}}{\text{total full-time equivalent faculty for key courses}}$ = number of student credit hours per full-time equivalent faculty

B: $\frac{\text{total number student credit hours in key courses}}{\text{total dollar cost of instruction in key courses}}$ = number of student credit hours per dollar spent on instruction

C: $\frac{\text{total number successful student credit hours in key courses}}{\text{total dollar cost of instruction in key courses}}$ = number of successful student credit hours per dollar spent on instruction

D: $\frac{\text{total student credit hours for campus (all courses)}}{\text{total full-time equivalent faculty for campus}}$ = number of student credit hours per full-time equivalent faculty

E: $\frac{100\ (\text{total number of students retained between qtrs})}{\text{total number of students enrolled}}$ = number of students retained between quarters per 100 students enrolled

CONCLUSIONS

The objectives of the project were as follows:
1. By June, 1982, develop and implement cost-efficient practices that will improve student success rates by 5 percent in entry-level courses in business, health, engineering, and general education.
2. By June, 1982, develop and implement cost-efficient practices that will improve student retention between quarters by 5 percent.

The following results were achieved relative to Objective 1:
- The number of credit hours of students enrolled in key courses per full-time equivalent faculty increased from 370.44 to 421.26, an increase of 13.7 percent (see Figure 2).
- The total number of student credit hours on the Metropolitan campus per full-time equivalent faculty increased from 271.68 to 305.61, an increase of 12.5 percent (see Figure 3).

- The number of students successful in key courses (i.e., students who earned grades of A-D) increased from 26,521 to 28,178 (see Figure 4). Although this is an increase of 3.5 percent over the initial success rate (i.e., 51.3 percent over 47.8 percent), it is a 9.4 percent improvement over the headcount success rate (i.e., 28,178 of 54,918 enrollees over the base period rate of 26,521 of 55,419 enrollees).
- The number of credit hours for students enrolled in key courses per dollar spent on instruction decreased from .049 to 046, a change of minus .003 or 6 percent (see Figure 5), while the CPI increased from 244.9 in 1980 to 283.4 in February 82, or 15.7 percent.
- The number of credit hours for successful students per dollar spent on instruction remained constant at .007 for both periods (see Figure 6).

These results indicate that the student credit hour:faculty ratio can be substantially increased and at the same time increase the success rate of students. The results further indicate that the cost per credit hour increased slightly (i.e., fewer number of credit hours were carried at a somewhat higher cost to the institution for each credit hour). However, the rate of increase per credit hour at 6 percent is substantially below the rate of inflation over the project period and also substantially below the overall increase in faculty pay during the period (i.e., 34 percent). In addition, the results indicate that the increase in student credit hours per full-time equivalent faculty had no adverse effect on the number of successful credit hours per dollar spent on instruction.

The following results were achieved relative to Objective 2:

- The average student retention between quarters increased from 67.7 percent during the base period to 76.2 percent during the project period.

This finding indicates that although the student credit hour:faculty ratio was substantially increased, an increase of 8.5 percent in student retention was achieved during the same period. Further, although the cost of credit hours per dollar spent increased somewhat during the project period, retention--and thus the income from student tuition and fees--was substantially improved. For successful students, the cost of credit hours per dollar spent remained constant. An additional finding related to retention is also worth noting: The within quarter retention of students enrolled in the key courses increased from 76.7 in the base period to 85 percent during the project period, an increase of 8.4 percent. Here again the increase in student credit hour: faculty ratio had no negative impact on retention.

On the basis of the above findings, the following conclusions can be drawn:

- Student success and student retention can be positively influenced by a firm commitment at all levels of the institution's organization.
- Productivity as measured by student credit hour: faculty ratio can be substantially improved and at the same time improve student success and retention.

RECOMMENDATIONS

It is essential that productivity studies be implemented within the context of institutional goals and objectives to ensure the long-term credibility and integrity of such studies. That is, productivity studies should be established components of institutional PME systems. Results should be part of the framework for decisions

to improve planning, management, and evaluation relative to accomplishment of institutional goals and objectives. Further, additional productivity factors should be identified and their costs determined and included in future studies.

INSTITUTIONAL IMPACT

The College President and Vice President of Educational Planning and Development had given firm institutional directions in the area of improvements in student retention; student success; and planning, management, and evaluation prior to the development and implementation of the study. Therefore, institutional goals and objectives in these areas were previously established and provided a "natural" framework for the study. No special attention was given to the study during the two-year project period. In fact, few people in the institution were aware that the study was in progress. The study was and still is viewed as a critical component of the institutional PME system.

The results of the study will be disseminated within the institution as a "snapshot" in time that provides a picture of where we are now relative to where we plan to go (i.e., present status relative to accomplishment of institutional goals and objectives). Discussions will be initiated for the purpose of identifying strengths and assessing where improvements are needed.

Further, although the present study targeted only key courses because of the importance of those courses in student success and retention in programs, the factors of success and retention must now be addressed within a broader definition: student success and retention in terms of achieving the student's defined educational goals in the College.

GENERAL COMMENTS

During the years ahead the College must meet the challenge of maintaining open access and academic and institutional excellence with declining or leveling resources. Therefore, the League of Innovation's emphasis on productivity as indicated by this project has great significance and potential for enabling this institution and others to better understand the process related to development and implementation of productivity studies. The project is relevant for Cuyahoga Community College.

FIGURE 1

KEY ENTRY LEVEL COURSES
DESIGNATED FOR PROJECT

ACCOUNTING 107: Business Math

ACCOUNTING 121: Principles of Accounting

ANTHROPOLOGY 101: Cultural Anthropology

ARCHITECTURAL & CONSTRUCTION ENGINEERING TECHNOLOGY 121: Architectural Drawing

BIOLOGY 121: Principles of Medical Science

BIOLOGY 128: Anatomy & Physiology

CHEMISTRY 101: Introduction to Inorganic Chemistry

CHEMISTRY 111: GENERAL CHEMISTRY

DATA PROCESSING 110: Introduction To Computers and Their Use

ENGLISH 091: Essentials of Written Communication

ENGLISH 092: Essentials of Written Communication

ENGLISH 095: Reading Improvement

ENGLISH 096: Reading Improvement

ENGLISH 101: College Composition

ENGLISH 121: English as a Second Language

FRENCH 101: Beginning French

HEALTH 101: Health Education

HISTORY 101: Man and Civilization

HISTORY 151: United States History to 1841

HISTORY 170: History of Africa

HISTORY 171: The Negro in American American Culture to 1908

MATHEMATICS 091: College Arithmetic

MATHEMATICS 095: Algebra

MATHEMATICS 101: Algebra

MECHANICAL ENGINEERING TECHNOLOGY 150: Machine Tools

OFFICE ADMINISTRATION 101: Typewriting

PHILOSOPHY 101: Introduction to Philosophy

PSYCHOLOGY 101: General Psychology

SOCIAL SCIENCE 103: Introduction to Social Science

SOCIAL SCIENCE 105: Introduction to Social Science

SOCIOLOGY 101: Introduction to Sociology

SPANISH 101: Beginning Spanish

SPEECH 100: Fundamentals of Interpersonal Communication

SPEECH 101: Fundamentals of Speech Communication

THEATRE 101: Theatre Appreciation

FIGURE 2

STUDENT CREDIT HOUR RATIO
(Key Courses)

BASE PERIOD

QUARTER	STUDENT CREDIT HOURS	TOTAL FTE STUDENTS	FT/PT FACULTY (FTE)	TOTAL FTE FACULTY
SPRING 1978	32,964	2197.6	50.37/31.95	82.32
FALL 1978	34.623	2308.2	56.49/31.8	88.29
WINTER 1979	25,728	1715.2	41.21/33.69	74.90
SPRING 1979	26,433	1762.2	43.11/35.67	78.78
FALL 1979	33,854	2256.9	51.92/41.2	93.12
WINTER 1980	27.569	1837.9	45.22/26.44	71.66
TOTALS	181,171	12078.	288.32/200.75	489.07

STUDENT CREDIT HOUR RATIO: 370.44

PROJECT PERIOD

QUARTER	STUDENT CREDIT HOURS	TOTAL FTE STUDENTS	FT/PT FACULTY (FTE)	TOTAL FTE FACULTY
SPRING 1980	25,671	1711.4	41.35/22.89	64.24
FALL 1980	33,912	2260.8	59.48/22.95	82.43
WINTER 1981	28,102	1873.5	43.77/24.21	67.98
SPRING 1981	29,602	1973.4	42.36/25.02	67.38
FALL 1981	32,833	2188.8	51.67/23.35	75.02
WINTER 1982	27,937	1862.4	42.02/23.61	65.63
TOTALS	178,057	11870.3	280.65/142.03	422.68

STUDENT CREDIT HOUR RATIO: 421.26

FIGURE 3

METROPOLITAN CAMPUS
TOTAL STUDENT CREDIT HOURS DATA (SCRH)

QUARTER	SCRH	FACULTY (FTE)	QUARTER	SCRH	FACULTY (FTE)
SPRING 1978	87,468	300.44	SPRING 1980	72,537	256.62
FALL 1978	79,365	271.98	FALL 1981	75,853	240.03
WINTER 1979	71,139	287.62	WINTER 1981	71,676	241.97
SPRING 1979	74,547	298.45	SPRING 1981	77,066	250.46
FALL 1979	78,463	291.84	FALL 1981	74,745	233.17
WINTER 1980	71,209	250.86	WINTER 1982	72,093	230.47
TOTALS	462,191	1,701.19	TOTALS	443,970	1,452.72

SCRH AVG. = 271.68

SCRH AVG. = 305.61

FIGURE 4

STUDENT SUCCESS IN KEY COURSES
(Duplicated Headcount)

BASE PERIOD				PROJECT PERIOD			
QUARTER	TOTAL STUDENTS 14TH DAY	TOTAL STUDENTS SUCCESSFUL	SUCCESSFUL STUDENTS/% (A-D GRADE)	QUARTER	TOTAL STUDENTS 14TH DAY	TOTAL STUDENTS SUCCESSFUL	SUCCESSFUL STUDENTS/% (A-D GRADE
SPRING 1978	9,816	4,202	42.8%	SPRING 1980	7,919	3,490	44.0%
FALL 1978	10,627	5,366	50.4%	FALL 1980	10,428	5,745	55.0%
WINTER 1979	7,923	3,859	48.7%	WINTER 1981	8,700	4,579	52.6%
SPRING 1980	8,170	3,638	44.5%	SPRING 1981	9,154	4,017	43.8%
FALL 1979	10,377	5,264	50.7%	FALL 1981	10,103	5,866	58.0%
WINTER 1980	8,506	4,192	49.2%	WINTER 1982	8,610	4,481	52.0%
TOTALS	55,419	26,521	47.8%	TOTALS	54,914	28,178	51.3%

FIGURE 5

NUMBER OF CREDIT HOURS PER DOLLAR FOR INSTRUCTION FOR KEY COURSES

QUARTER	STUDENT CREDIT HOURS	FACULTY COSTS **Full-Time	FACULTY COSTS ***Part-Time	TUTORIAL COSTS College	TUTORIAL COSTS *OBOR
SPR '78	32,964	415,386	76,800	52,741	72,565
FALL '78	34,623	465,856	76,320	76,725	72,565
WTR '79	25,728	339,846	80,880	76,725	72,565
SPR '79	26,433	355,515	85,680	76,725	72,565
FALL '79	33,854	470,831	98,880	47,402	67,555
WTR '80	27,569	410,073	63,360	47,402	67,555
TOTALS	181,171	2,457,507	481,920	377,720	425,370
GRAND TOTAL:	Base Period = $3,742,517 Hrs. Per Dollar = .049				

QUARTER	STUDENT CREDIT HOURS	FACULTY COSTS **Full-Time	FACULTY COSTS ***Part-Time	TUTORIAL COSTS College	TUTORIAL COSTS *OBOR
SPR '80	25,671	374,978	54,960	47,402	67,555
FALL '80	33,912	597,900	54,960	34,349	67,049
WTR '81	28,102	439,981	58,080	34,349	67,049
SPR '81	29,602	425,808	60,000	34,349	67,049
FALL '81	32,833	578,271	55,920	33,570	62,346
WTR '82	27,937	470,021	56,640	33,570	62,346
TOTALS	178,057	2,886,959	340,560	217,589	393,394
GRAND TOTAL:	Project Period = $3,838,502 Hrs. Per Dollar = .046				

*Supplemental Developmental Education Funding by Ohio Board of Regents (OBOR)

**Average annual FTE faculty salaries including fringes:

Spring 78, Fall 78, Winter 79, Spring 79	= $24,990
Fall 79, Winter 80, Spring 80	27,480
Fall 80, Winter 81, Spring 81	30,461
Fall 81, Winter 82	33,914

***Average annual FTE part-time faculty salaries 7,200

FIGURE 6

NUMBER OF SUCCESSFUL STUDENT CREDIT HOURS PER DOLLAR SPENT

BASE PERIOD				PROJECT PERIOD			
QUARTER	TOTAL SUCCESSFUL CREDIT HOURS *	TOTAL COSTS OF FACULTY & TUTORIAL	NUMBER OF CREDIT HOURS PER DOLLAR SPENT	QUARTER	TOTAL SUCCESSFUL CREDIT HOURS	TOTAL COSTS OF FACULTY & TUTORIAL	NUMBER OF CREDIT HOURS PER DOLLAR SPENT
SPR 78	13,866.6	$617,492	.022	SPR 80	11,517	$544,895	.021
FALL 78	17,707.8	691,466	.026	FALL 80	18,958.5	754,258	.025
WTR 79	12,734.7	570,016	.022	WTR 81	15,110.7	599,459	.025
SPR 79	12,005.4	590,485	.020	SPR 81	13,256.1	587,206	.023
FALL 79	17,371.2	684,668	.025	FALL 81	19,357.8	730,107	.027
WTR 80	13,833.6	588,390	.024	WTR 82	14,787.3	622,577	.024

*TOTAL SUCCESSFUL CREDIT HOURS = 3.3 HOURS x SUCCESSFUL STUDENT HEADCOUNT

FIGURE 7

STUDENT RETENTION BETWEEN QUARTERS
(Campus Unduplicated Headcount)

BASE PERIOD				PROJECT PERIOD			
QUARTER	TOTAL ENROLLMENT	STUDENTS CONTINUING SUCCESSIVE QTR	PERCENT RETENTION	QUARTER	TOTAL ENROLLMENT	STUDENTS CONTINUING SUCCESSIVE QTR	PERCENT RETENTION
SPRING 1978	9876	5438	55%	SPRING 1980	8784	6289	72%
FALL 1978	9706	6127	63%	FALL 1980	9336	6886	74%
WINTER 1979	8355	6620	79%	WINTER 1981	8389	7637	91%
SPRING 1979	8989	5849	65%	SPRING 1981	9346	6408	69%
FALL 1979	9209	6615	72%	FALL 1981	9058	6801	75%
WINTER 1980	8315	7106	72%	WINTER 1981	8107		
AVERAGE PERCENT RETENTION BETWEEN QUARTERS			67.7%	AVERAGE PERCENT RETENTION BETWEEN QUARTERS			76.2%

DEFINITION OF RETENTION BETWEEN QUARTERS: $\frac{\text{Continuing Students Per Quarter}}{\text{Total Enrollment Preceding Quarter}}$

FIGURE 8

STUDENT RETENTION WITHIN QUARTERS IN KEY COURSES
(Duplicated Headcount)

BASE PERIOD			PROJECT PERIOD		
QUARTER	TOTAL ENROLLED 14TH DAY	TOTAL COMPLETED	QUARTER	TOTAL ENROLLED 14TH DAY	TOTAL COMPLETED
SPRING 1978	9,816	6,347	SPRING 1980	7,919	6,443
FALL 1978	10,627	9,130	FALL 1980	10,428	9,072
WINTER 1979	7,923	5,515	WINTER 1981	8,700	7,308
SPRING 1979	8,170	5,577	SPRING 1981	9,154	7,365
FALL 1979	10,377	8,369	FALL 1981	10,103	8,570
WINTER 1980	8,506	7,520	WINTER 1982	8,610	7,925
TOTALS	55,419	42,455	TOTALS	54,914	48,683
PERCENT COMPLETED	76.6%		PERCENT COMPLETED	85%	

FIGURE 9

PRODUCTIVITY PERFORMANCE

PRODUCTIVITY INDICATOR	BASE PERIOD	PROJECT PERIOD	PRODUCTIVITY CHANGE	PERCENT CHANGE
A	370.44	421.26	+50.82	13.7
B	.049	.046	- .003	(6.1)
C	.007	.007	-0-	-0-
D	271.68	305.61	33.93	12.5
E	67.7	76.2	N.A.	8.5

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